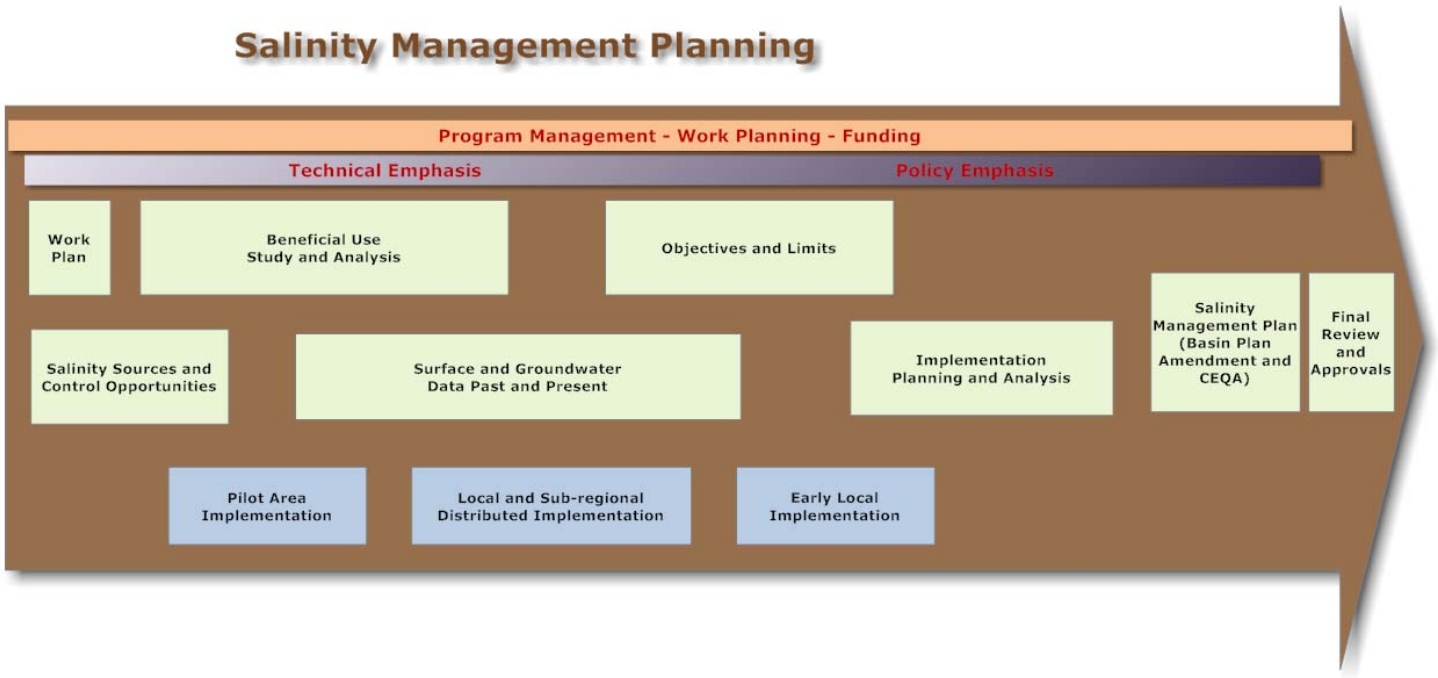
CV Salinity Management Plan
DRAFT Work Plan Outline Version 4
Seeking Subcommittee Input for 1/09/09 meeting

Introduction

The Work Plan outline provided below is intended to capture the highest level areas of effort needed to provide management, organization, coordination, data, analysis, policy, planning and implementation of a regional Salinity Management Plan. The outline lays out a technical and administrative process to establish either numeric or modified narrative objectives for salts as elements of an overall Salinity Management Plan, to achieve sustainable salt management for the three basins in the Central Valley. New or modified objectives must be adopted by the Regional Board in a Basin Plan amendment. The adoption of water quality objectives must be performed in compliance with the requirements of the California Water Code. The Water Code requires consideration of various factors, including the means by which the objectives can be attained, economics, the need for housing and others. This Work Plan includes the development of an implementation plan to demonstrate the means by which proposed objectives will be achieved and other information to fulfill Water Code requirements.

This outline to a basin plan amendment and implementation plan will be a living document and will evolve as more information is known, but will establish the framework and timing of needs to demonstrate adequate progress by the stakeholders. All efforts will make best use of the existing data from all sources without duplication or redundancies. All efforts must be coordinated with other regulatory processes, anti-degradation, recycled water, Delta Waters and others. Process must be transparent and open to all stakeholders and the public. The outline is divided into three major areas of work, Management, Technical efforts and Policy elements. The Work Plan lays out a series of tasks to be completed over a five to seven year period that will culminate in the adoption of a Basin Plan Amendment. Figure 1 below shows major efforts grouped and roughly ordered (DRAFT). Figure 2 shows a more summary schedule for the program (to be completed). Table 1 presents an estimated summary budget to complete the work plan (to be completed).

Figure 1 Major Work Efforts



Definitions
For clarity and to reduce the text in the following outline several definitions are provided:

Salinity Management Basin Plan – all documentation required to understand, set and document basin objectives, limits and regulatory and non-regulatory implementation plans to achieve effective salt management for all Central Valley Basins. Implemented as an amendment to the existing basin plans.

Program and Purpose –to complete required tasks, study, documentation and process to complete a Salinity Management Basin Plan amendment consistent with stakeholder input and funding for Board approval in the 5-7 year time frame.

Contract or Collaborative Support – Task may be contracted to consultants to provide expertise and assistance with accomplishing some or all of this task

Phased Implementation – indicates that this task may be phased to provide opportunity to develop the work in several sequential phases, each drawing on prior work.

Salts – unless specifically listed includes constituents of concern listed salts, nutrients such as nitrate and related local constituents identified as critical to the management of salinity.

Management

1) Program Management
   Program management includes managing and directing all tasks to develop all tasks efforts whether done as stakeholder activities or by others to achieve the program purpose. This area also manages communication, administrative tasks and manages stakeholder committees.
   a) Program Development
      Program development includes the tasks shown below and the development and implementation of efforts needed to complete the basin salinity management plan
      i) Scoping and work plan development
         All tasks required to develop and document the work plan with adequate scope and detail to accomplish the purpose. ***Contract Phased***
      ii) Program and project schedule, timeline, critical path and milestones
         All efforts to plan and schedule all tasks, processes, requirements and committee interaction to accomplish the purpose, monitoring of schedule and tracking of timelines with periodic reporting
      iii) Short-term implementation plan
         Prepare a detailed implementation plan for early tasks and pilot efforts for data gathering, technical study and salt reduction practices
      iv) Budget/funding plan and financing program (5 year)
         (1) Cost Budget
         Prepare a detailed estimated cost budget for all aspects of the program, including financial and in-kind resource requirements from i) and iii) as well as other stakeholder input
         (2) Revenue and Funding plan
         Prepare a detailed plan for obtaining stakeholder, grant, and other funding and financing resources needed over the duration of the budgeted activities for all elements of the program.
      v) Non-financial resources and requirements planning
         As an addition the iv) above this section of the resource plan will focus on non-financial in-kind and stakeholder contributed studies and other opportunities to have other contribute in non-financial means. Additionally this section will include requirements planning section specifically needs of the Waterboards for this program.
      vi) Program organization, staffing plan and support
         This is a bit of a catch-all, but includes the development of the organization; planning and selection, management and oversight of staffing, hired, volunteered, or contracted and developing the support systems and processes to insure the program is successful.

b) Procurement

Procurement includes all activities from Scope development, solicitation and evaluation of proposal, and bids as well as contracting for the work to be performed and ensuring the projects are completed and paid.

c) Stakeholder management and outreach

i) Stakeholder coordination and process management

This area is broad and will require additional development of the scope of efforts; however for the current process it includes planning, managing and coordinating the committee meetings and interactions with current and future stakeholders

ii) Outreach Communication and Public Information

This section integrates and manages efforts of the Stakeholder and Public Education Committee

d) Related/Integrated project coordination

Many related or integrated projects will be performed and coordinated in this section. The work will likely be overseen by one or more committees but integrated and managed in this task.

e) Periodic reporting and communications

Program reporting will use the results of the rest of the tasks above and the assistance of the Public Education and Stakeholder Outreach Committee to provide appropriate information to the audiences of the program on a timely and appropriate basis. Also included will be official reports to the executive committee, the Waterboards, and all funding agencies and groups. Periodic presentations to the Waterboards and others will be scheduled.

f) Basin planning process compliance (joint with RWQCB)

i) Record keeping

Based on requirements for Basin Plans and other direction from the Waterboards the program will work with Waterboards staff to insure the process is documented and appropriate records are kept to document requirements, progress, and public participation in the public record.

ii) Other requirements

Other public participation and documentation needs will be identified and budgeted in this task

Technical

Technical tasks develop the universe of information needed to base scientific, economic and policy decisions upon. This set of subtasks may be expanded as information and saturations become known or better understood.

2) Identify Salt Constituents and Data Requirements

a) Determine salt and nutrients constituents

Through stakeholder committee processes determine and document the constituents of concern for the planning, study and management of salinity and the program. A method for identification and review is included in the Pilot Salt Sources Study Scope.

b) Beneficial uses and requirements

This task will identify all beneficial uses and requirements to protect the identified beneficial uses. The task may vary by area beginning with existing identified beneficial use and may progress to evaluate the appropriateness of these uses for the management of salinity. The task will document for listed and unlisted water bodies the uses and limits to maintain beneficial uses.

c) Surface water quality

This task will integrate work done in several sections specifically to identify historic, and current water quality for constituents of concern from each geographic area efforts will be coordinated with TMDL and other programs to minimize any duplication and redundant work in addition this effort may be completed on subregional basis by local agencies ***phased contracted***

d) Groundwater quality

This task will integrate work done in several sections specifically to identify historic, and current water quality for constituents of concern from each geographic area this work will be coordinated with current monitoring programs and regional efforts to reduce duplication and redundant work this effort will likely be completed on subregional basis by local agencies or groups. In addition to the information on the water quality, well construction or hydrogeologic information will be needed for context. ***phased contracted***

e) Salt sources and sinks

Salt Source evaluation has a separate scope work prepared for pilot efforts, these will be coordinated and managed in this task and then folded into the full implementation and coordinated with the surface and groundwater task above to identify the complete fate and transport of salts in the region.

f) Other needs

This section will be developed in review and during the development of the work plan

3) Develop Regional Database and Populate
   a) Database requirements and design using open systems

With stakeholder input develop requirements document to be satisfied for the database that will be used for data collection and management. Include evaluation of open or public access systems that may be accessed by the public as appropriate. The requirements document will become part of the scope of work for consultants who will complete the following tasks. Design, structure, interfaces and content standards will be developed as part of the implementation of database ***phased contracted***

   b) Collect historic and recent data

This task will overlap with Task 2 c), d), and e) above. This task will be coordination of data collected in to the database and preparation for validation. This task may be performed in components or counterparts by local or subregional agencies or groups ***phased contracted***

   c) Data validation and analysis

Data validation will include temporal, spatial and quality assurance tests of the data by independent parties or reviewed by independent parties and stakeholders to ensure appropriate and scientifically valid data. Various analyses will be needed to determine the validity and appropriateness of the data.

   d) Data gap identification and management

As data is populated in the database and validated analysis will begin to determine the location of data gaps, geographic and temporal and the implications of those gaps to the plan. These efforts will be coordinated with modeling tools that are being developed in Task 5 and incorporated in to the needs for monitoring in Task 4.

   e) Data summary report for basin planning

This task will prepare periodic summary reports on the data received to date and the quality and usability of the data for salinity planning and management. These efforts will be coordinated the monitoring in Task 4.

   f) Sources, transport and fate of salt in region

Based on the data collected the source and other information generated a summary of salt sources, transport and fate of salt in the region will be prepared. Emphasis on superb summary and graphics will be critical to simplifying understanding by stakeholders at all levels. This report will likely be updated and produced in several phases as additional data is available ***phased contracted***

4) Monitoring
   a) Identify area where data is unavailable

From tasks 2 and 3 above identify the areas where monitoring is needed to obtain data for basin planning and modeling. Identify information needs for monitoring or other sampling, analysis and collection and where this data is missing. This task will interface with Task 5 subtask d) below to identify the assumptions that would have to be made if the data is not available or produced.

   b) Develop additional data collection and monitoring program

Based on the data gaps and other information needs for the program develop a comprehensive listing of data needed by type, area and source and a sampling and analysis plan covering methods for each media and analysis needed and quality assurance requirements. This plan may also cover future monitoring needs as appropriate for current planning.

   c) Conduct essential monitoring

This is the task of implementing the program described in subtask b) above. This effort will be confined to the data needed for the program but may also be coordinated with other monitoring programs to reduce cost or redundancy. This task may be accomplished in counterparts or segments performed by local or sub regional groups.

   d) Develop ongoing monitoring program, where required

After most data has been obtained and analyzed for the program future monitoring will likely be required. Monitoring may be required to insure implementation proceeds as planned or to further characterize the areas or ensure trend projections are accurate. This task will provide the monitoring plan procedures timing for monitoring.

5) Develop Conceptual Models and Decision Assistance Tools
   a) Develop model requirements

This task develops modeling requirement for the models and decision tools needed for planning and implementation of the program. These requirements developed with the stakeholders will be used to solicit proposals for the model and tool development and implementation.

   b) Identify preliminary conceptual and analytical models

From stakeholder input and with feedback from the policy and executive committee propose preliminary conceptual models for salinity in the region and identify analytical models that may be used for analysis planning and management tools.

c) Select conceptual and analytical models

With the executive committee evaluate conceptual and analytical models and tools for use in the program and provide justification for procurement.

d) Data assumptions and dynamic modeling

Based on the models selected propose initial data assumptions and model input parameters that will be based on professional judgment or the likely range of such parameters for stakeholder input prior to the start of modeling. This task will present assumptions and also begin to test these assumptions for stakeholder review. Additionally this task should be completed before Task 4 above is completed so the modeling can be used to evaluate essential data gathering and monitoring and provide changes as needed.

e) Perform modeling and analysis and tools for planning

This task will likely be accomplished in several phases throughout the project but will provide the actual model runs and analysis for the planning, forecasting and understanding of salt in the region. Later the same models and tools will be used to evaluate management and control options for program implementation. Finally these same tools can be used to provide adaptive management recommendations for implementation.

6) Implementation Planning and Analysis

a) Identify potential salt management alternative strategies

Identify all significant and relevant potential salt management alternatives that could be implemented by the program. Identification will characterize the alternatives as regulatory (coordinates with policy below) and non-regulatory, economic, physical or others. This task identifies options for salt solutions. This task will also identify management alternatives that are effective on nutrients and other constituents as well as salt.

b) Identify potential minimization and control alternatives

This task will focus on the minimization and control alternatives available to minimize salt usage or import, mobilization and concentration or control options to remove salts from systems of the region.

c) Evaluate effectiveness of current or proposed limits and approaches

Characterize current objective limits and control systems and evaluate the effectiveness of their current implementation. Coordinated with modeling to provide future concentrations based on current or proposed regulatory and non-regulatory programs.

d) Evaluate potential strategies and alternatives

i) Technical feasibility

ii) Economic viability

iii) Implementability

From the potential alternative approaches, methods and strategies for salinity management develop conceptual implementation scenarios for each. Evaluate each separately based on the criteria above to provide an assessment of the alternatives. Evaluate which strategies and alternative address multiple constituents and which can be used in combination to be more efficient or cost effective.

e) Identify recommended suite of strategies and implementation program

Based on the previous work in Task 6, identify recommended suites of strategies and regulatory and non-regulatory implementations that provide scenarios which will achieve program goals and provide long term salt management. This task will overlap the technical and the policy areas and will have significant stakeholder and public review. These alternative scenarios should be prepared to allow CEQA and other environmental evaluation.

Policy

Areas of regulatory, legal and political importance that are not technical in nature are grouped under Policy. This area will focus on the opportunities and constraints posed by the technical, economic and public policy goals and requirements for managing salt and nutrients in the Region.

7) Identify Management Goals

Early efforts should include the identification and development of salt and nutrient management goals to guide the program. Some of the considerations and needs are shown below

a) Salt balance/maximum benefit

Policy and management goals to achieve salt balance or sustainability which could include max benefit to achieve

b) Scale of solutions

Local, sub-regional, industry-wide, region-wide, State and federal scaled solution options

c) Adaptive management efforts

Efforts to account for changing or uncertain conditions or areas with limited data

d) Implementability and assurances

Develop implementation goals and enforceable assurances for legal acceptability

8) Identify Beneficial Uses and Achievable Protective levels

This task takes over after technical evaluation of the available data for existing beneficial uses. The effort will be integrated and coordinated with the technical areas of data collection and management and modeling and decision tools.

a) Current beneficial use or reassessment

Evaluate current beneficial uses and potentially reassess beneficial uses for listed and unlisted waters. Identify uses that may not be attained based on current programs, if any and for which factors related to salinity.

b) Develop use attainability analysis (may not be required unless some beneficial uses should be removed)

Based on the beneficial uses perform scientific assessment salinity and nutrient factors affecting attainment the uses including physical, chemical, biological, and economic criteria.

c) Access achievable protection levels and cost/implementability/sustainability

From subtask a) identify the likely achievable water quality in the current systems and the costs, implementability and sustainability of the current systems

9) Identify Water Quality Goals, Objectives and Limits

The following subtasks would be completed as policy counterpart with Task 2 and Task 8 above. This task will focus on the selection and documentation base on that technical policy development work.

a) Select numerical objectives and limits (surface and groundwater)

Based on the beneficial uses and achievable protection proposed evaluate and develop consensus around defendable numerical objectives and limits to be supported in the program. Could be preliminary or presumptive limits based on limited data as phase 1.

b) Model beneficial use limits and sensitivity of limits

Conduct modeling and analysis of the proposed limits for impacts and sensitivity analysis of the proposed limits.

c) Document limits for all discharge types in all geographies

Based on the scientific data and achievable limits, document economically viable and implementable limits for each subregions, discharge or salt source types.

10) Regulatory and Non-Regulatory Implementation Planning

The following tasks are meant to explore the implementation of the limits in Task 9 above. Thorough examination and review of potential implementation plans takes over from its counterpart Task 6 in the technical section. While considerable overlap might appear to be present, Task 10 would approach the implementation from the public policy approach, the two parts coming together to form the implementation plan for execution. This task would likely be facilitated in coordination with the technical tasks.

a) Identify and research implementation strategies and options

b) Identify early implementations options

c) Select implementation strategies

This task selects the strategies and programs that will move forward and be developed for implementation.

d) Develop adaptive management strategies

This task differs from or augments 10 c) above with quantified, verifiable adaptive management strategies and programs to assist with implementation with incomplete data or uncertain circumstances or effectiveness is present. These strategies will be combined with c) above as the full suite of implementation strategies.

e) Identify implementation options treatment, disposal, minimization

f) Identify legal or policy changes and constraints

Review the legal and policy basis and constraints to implementing the strategies, identifying where legal or policy changes are needed to achieve program success.

g) Develop implementation timeline

This task will propose, evaluate and document consensus on a schedule and milestones for implementation of the strategies and programs

h) Implementation effectiveness and cost benefit analysis

In combination with Task 10 above this effort will review the selected programs and strategies for effectiveness and cost benefit ensuring that scarce public and private capital is focused on the critical areas first and on effective and cost efficient means.

i) Vet implementation plan with external participants

j) Program direction and documentation/validation plan

This task rolls all the information on programs and strategies with implementation timing and funding to provide a blueprint for implementation and validation or monitoring to ensure performance.

i) Who, what, when, where, how, how much, and who pays
ii) Dischargers and others

11) CEQA and Basin Plan Documents

Task 11 provides CEQA analysis and documentation as well as functioning as a capstone to the planning efforts to also provides the basin plan amendment text and process of review and revision. Additionally a long term monitoring and performance/compliance program outline will be prepared to track and monitor implementation and adaptive management changes.

a) Draft CEQA Document
b) Draft Basin Plan Amendment
c) Other analysis and assessments for basin planning
    i) Revised all through approval stages
d) Long term monitoring and compliance reporting program
    i) CEQA Implementation monitoring
    ii) Adaptive management implementation monitoring
    iii) Salinity monitoring, reporting and assessment

Figure 2 Summary Schedule

Table 1 Summary Budget